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The YOUNGBERRY is our
Leader for
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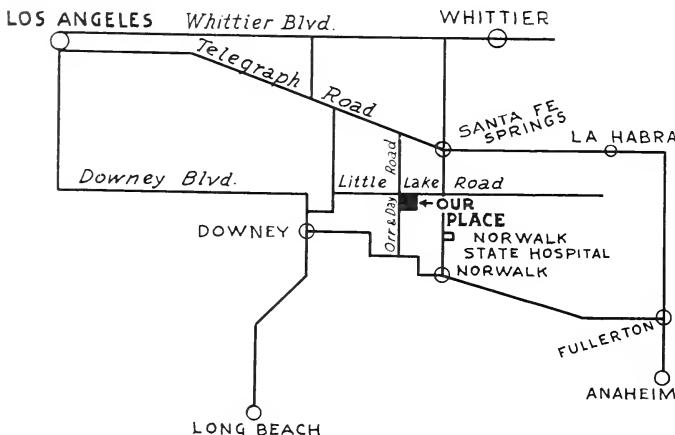
PRESTON'S Berry Ranch

Catalog of Berries and
Berry Plants



Telephone Downey 42569
3100 LITTLE LAKE ROAD
NORWALK - CALIFORNIA

Location



We are located in Los Angeles County on Little Lake Road (at corner of Little Lake and Day and Orr Roads), $\frac{1}{2}$ mile north and one mile west of Norwalk State Hospital, or one mile west of Santa Fe Springs, or $3\frac{1}{2}$ miles east of Downey.

To reach our place come to Santa Fe Springs and then drive west one mile on Little Lake Road, which is first road south of Telegraph Road.

Telegraph Road is the main boulevard from Los Angeles through Santa Fe Springs.

Please Observe When Placing Your Order

Use the enclosed order blank when possible.

REMIT postoffice money order, registered letter, express order or check.

WRITE your name and address plainly; do not fail to advise us when you wish the plants shipped.

WE PAY THE POSTAGE OR EXPRESS CHARGES ANYWHERE IN CALIFORNIA ON ORDERS OVER \$2. If ordering from other states enclose postage or express.

WE GUARANTEE PLANTS TO ARRIVE IN GOOD CONDITION

Although we have no control over plants after they leave our hands, still we want you to be pleased with your plants and to succeed with them, so we guarantee them to reach you in good condition.

All Plants are inspected by local horticultural inspectors before leaving our place, and guaranteed to pass inspection on arrival.

All Orders which you wish us to hold for future delivery should be accompanied by at least one-fourth cash.

GUARANTEE

We exercise the greatest care to have our plants true to label, and hold ourselves in readiness, on proper proof, to replace any plants that may prove untrue to label, free of charge, or to refund the amount paid, but it is mutually understood and agreed to between the purchaser and ourselves that our guarantee shall in no case make us liable for any sum greater than that originally received for said plants that may prove untrue.

PRESTON BERRY RANCH.

Visit Our Field

We will be pleased to have you visit our field, so that we may show you the different varieties and methods of growing. Our knowledge of the business should make it worth your while, as we have been in the commercial berry business for twenty-nine years. Our experience should be of some value to you in selecting varieties best adapted to your soil and climate.

In starting a berry planting, success or failure may depend on starting with the right varieties. During the many years that we have been growing berries, we have selected varieties and strains of varieties that are prolific. The varieties listed in this catalog have proven profitable for us, and to other growers to whom we have sold plants, and no doubt will prove profitable for you.

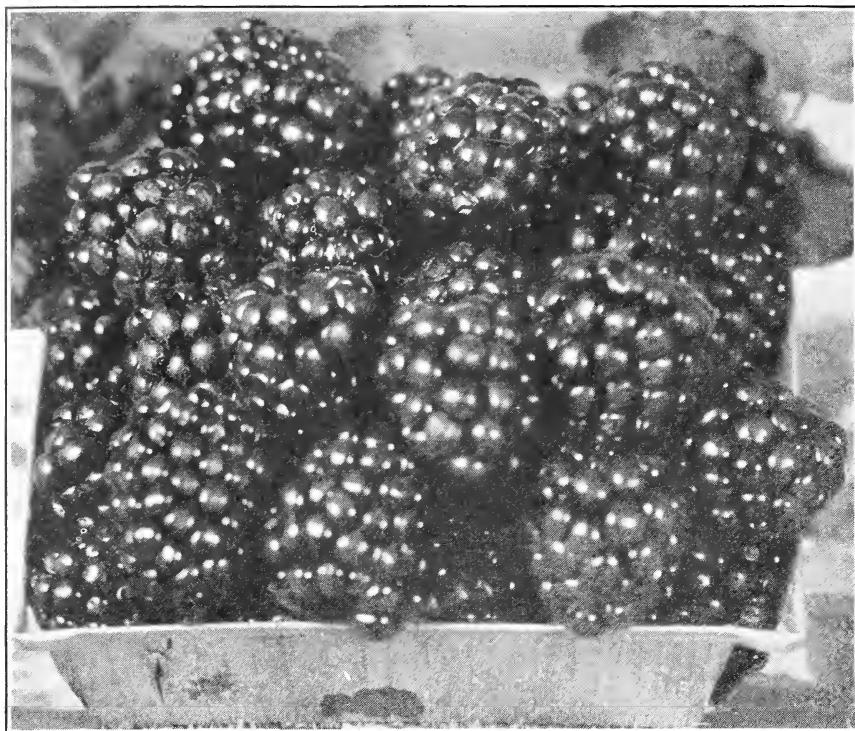
Our plants are absolutely the best that we know how to grow. They are from thrifty, clean, young fields that have been thoroughly inspected, and can be shipped anywhere. We grade carefully, pack in damp moss, and guarantee arrival in good condition, but cannot assume further responsibility.

START WITH GOOD PLANTS—We have built up a reputation in the berry business and in order to maintain this reputation we ship only the very best.

The prime essential in the berry business, as in any other like enterprise, is to plant the best stock obtainable. It would be poor policy to plant cheap stock and expect to get large yields of quality fruit. Plant the best and the extra profits that you will get will soon pay for the slightly higher initial cost of plants. In growing cheaper plants, we would have to sacrifice quality. A liberal discount on orders taken at field.

We make no exaggerated claims as to the profits you can make with berries. This catalog is distributed with the idea of helping you to select suitable varieties and to help you to succeed with them.

PRESTON'S BERRY RANCH
Norwalk, California

A Basket of Youngberries— $\frac{3}{4}$ Actual Size

The Youngberry

(The Improved Loganberry or Youngdewberry)

The Youngberry, the best of all the bush berries, is certainly in a class by itself. Although it is a cross between the Loganberry and the Austin Dewberry, it is far superior to either one of its parents. It takes after the dewberry in productiveness, hardiness and freedom from disease. The canes grow and resemble more closely the loganberry than the dewberry. The fruit is larger, sweeter, darker red, and has a more pleasing flavor than the loganberry. On account of its lack of seeds and acid it surpasses the other berries in making jam, jelly and pies.

The fruiting season is a few days later than Gardena Dewberries and a few days earlier than Loganberries. In Southern California, practically the entire crop is harvested during the month of June. On account of the heavy yield, fast ripening and large size, they are the cheapest berry to pick that we have ever grown. The past season we had several pickers who picked over three hundred baskets in a nine-hour day.

We picked, from a new five-acre field (1929) eighty thousand baskets, which

sold for more than \$5000. This being the first season we ever sold any on the wholesale market.

It is a question of only a short time when it will become the most popular bush berry in California. The berry grower will want to plant it on account of the heavy production, health, vigor, and large size of fruit; and the consumer will demand it because it is larger, finer looking and better flavored than any other bush berry now being grown.

Mr. George M. Darrow of the Department of Agriculture at Washington, sums up its superior qualities as follows: "The disease resistance of the foliage, its apparent resistance to anthracnose, and the superb quality of its fruit for dessert, culinary purposes, and as a source of fresh fruit beverage make it especially promising as a commercial and a home garden fruit. No weak points have yet appeared in the variety."

As we feel confident that this berry will be very profitable for years to come we are increasing our plantings each year.

The Youngberry derives its name from having been crossed by a Mr. Young in Alabama a few years ago. The Department of Agriculture, quick to note its superior qualities, has tested it at several experiment stations and recommends it for planting where Loganberries and dewberries are successfully grown.

The bush is a very strong grower and should be trellised. A trellis of two wires (the bottom wire about two and one-half feet from the ground and the top wire about three and one-half to four feet) is all that is required. Plant eight feet apart in rows six to seven feet across. About eight hundred plants per acre.

Prices—Each, 20c; 10, \$1.75; 25, \$2.50; 50, \$4.00; 100, \$7.00; 1,000, \$55.00.

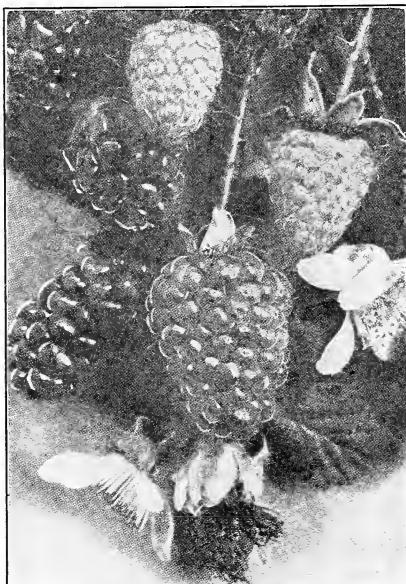
We have a limited number of thornless Youngberry plants at the following prices: Each, 25c; 10, \$2.00; 25, \$3.50; 50, \$6.00; 100, \$10.00.

THE LOGANBERRY

This popular berry is of California origin, being introduced by Judge J. H. Logan thirty years ago.

The fruit is large, long, an attractive red color, and although quite tart it is a favorite with many people for jams and jellies, and also it mixes very well with other berries, especially raspberries, for jams.

The vines are trailing and have to be trellised. Plant eight feet apart in rows six to seven feet apart, and about eight hundred plants per acre.



Loganberry

Prices—Each, 15c; 10, \$1.25; 100, \$6.00; 1,000, \$50.00.

Blackberries

Himalaya Blackberry—A rank and vigorous grower of the trailing type which has to be trellised. The fruiting season of this variety is much longer than any of the other blackberries, lasting from about July 15th to October or even later some seasons.

The berries are round, medium size, and grow in large clusters like grapes.

The canes do not die back every year as other blackberries but continue to grow like a grapevine; only the fruit spurs dying back each year. This berry is very susceptible to the red-berry trouble and will have to be sprayed for good results. Plant ten feet apart in rows seven or eight feet apart, and about six hundred plants per acre.

Prices—Each, 15c; 10, \$1.25; 25, \$2.25; 50, \$4.00; 100, \$6.00; 1,000, \$50.00.

The Advance Blackberry—This variety is the first to ripen of any of the blackberries, being about four weeks earlier than the Gardena Dewberry which ripens next. We usually start picking some time in April, and in warmer sections they are earlier than that. It is also the firmest and best shipping blackberry. The crop ripens slowly, lasting over a period of from six to eight weeks.

The first year after planting the vines trail on the ground much like the dewberry, but the next and succeeding years they grow upright like common blackberries. They need no pruning the first year.

As they bloom very early in the season, when the weather is likely to be unfavorable for bees to work, we have found that less than five plants will not pollinate satisfactorily, so we do not sell less than five plants of this variety.

There are two strains of this variety, so by having these two strains thoroughly mixed better pollination results. In a small planting of a single row, best results are obtained by alternating the strains, setting first one then the other in the row. The plants will be tied separately in shipment, so that they may be planted this way. In larger plantings we have found that two plants of one strain to one of the other is desirable, therefore such orders are packed and marked in this ratio. In large fields it is a good plan to keep a few stands of bees in or near the field.

Plant five feet apart in rows eight feet across, 1,000 plants per acre. Plants of the Advance will not be ready to dig before March 15th.

Prices—Each, 15c; 10, \$1.25; 25, \$2.50; 50, \$4.00; 100, \$7.00; 1,000, \$50.00.

Corey Thornless—This variety of blackberry is a strong grower of the trailing type, and has to be trellised. The fruit is the largest of all the blackberries, has small and few seeds, but is rather soft. This fact makes it a poor shipper, although it is good for local trade. It ripens about the first of June, and the season lasts about five weeks. Plant eight feet apart in rows seven

**Advance Blackberry**

feet apart, which requires around seven hundred and fifty plants per acre.

Prices—Each, 15c; 10, \$1.25; 25, \$2.00;
50, \$4.00; 100, \$6.00; 1,000, \$50.00.

Macatawa or Improved Crandall Blackberry (Also called Macatawa Everbearing)—The Macatawa is a bush type blackberry, and will produce very satisfactory crops under a wider range of soils and under more adverse conditions than most other varieties of blackberries.

The fruit is uniformly large, firm, very sweet, with few seeds and practically no core. We consider it the best mid-season blackberry because it never fails to bear abundant crops which last over quite a long season, and because the fruit is fine for eating fresh as well as for canning. It bears a very heavy crop through June and most of July, and usually another light crop in the fall; and it is from this that it derives the name of Everbearing. This variety gets ripe just when the Advance Blackberries are nearly gone, and should be planted to prolong the blackberry season. Plant five feet apart in rows eight feet across, requiring 1,000 plants per acre.

Prices—Each, 15c; 10, \$1.25; 25, \$2.50;
50, \$4.00; 100, \$6.00; 1,000, \$50.00.

Mammoth Blackberries—This berry in every way resembles the Corey Thornless, except that it is thorny and is more prolific in some localities, especially in hot, dry sections.

Prices—Each, 15c; 10, \$1.25; 25, \$2.50;
50, \$4.00; 100, \$7.00; 1,000, \$50.00.

Blackberries from April Until November—In order to have blackberries over the longest season, plant Advance, which are ripe in April and May; Macatas, which are ripe in June and July; Himalayas, ripe in August, September, and October. If your locality is subject

to frost late in the spring, substitute one of the dewberries in place of the Advance Blackberry.

DEWBERRIES

Gardena—This variety ripens four weeks later than the Advance blackberry, but two weeks earlier than the common varieties of blackberries. It will grow and produce heavily in any part of the Southwest where climatic conditions are favorable for berry culture. Its bearing season commences about the middle of May, lasting four to five weeks, depending on the weather. It produces heavier crops if trellised. Ten plants will make a row thirty-five feet long. Plant three and one-half feet apart in rows six feet across, 2,000 plants per acre.

Lucretia—This variety, which produces a long, firm berry, should be planted to prolong the early blackberry season, as it is ten days later than the Gardena and its heaviest picks come just as the Advance are going out. In comparing it to the Gardena, we find that it not only has a better flavor, but is larger and firmer, making it more desirable for shipping.

Plant three and one-half feet apart in rows six feet across, 2,000 plants per acre.

Prices—Each, 15c; 10, \$1.00; 25, \$2.00;
50, \$3.50; 100, \$6.00; 1,000, \$40.00.

The home gardener will find it profitable to plant a few bushes of each of the above varieties, as they will bear more fruit for the small space occupied than any other berry. There is also a minimum amount of work with these varieties as the whole bush is chopped off at the ground at the end of the season to grow up fresh for the next season, thus eliminating hand pruning.

Raspberries

The different varieties which you will find listed here will do well in the irrigated sections of the Southwest, where the soil and climate are adapted to their needs. It has been the general opinion that black raspberries could not be grown with success here, but we have found that they are well adapted to the soil and climatic conditions in many parts of Southern California. Since few people are acquainted with this fact, few have been planted; therefore, since the demand far exceeds the supply, high prices prevail throughout the season.

Blackcaps—We have found that the Cumberland variety is best suited to the climate of the Southwest. It produces abundantly over a long season, the berries being firm, well flavored, and a good size. These berries always demand the highest prices on the market.

Our plants are clean, heavily rooted, and from thrifty, new fields. They should produce fine growth during the coming season and a heavy crop the following summer. Plant three and a half feet apart in rows seven feet across. 1750 plants are required per acre.

Prices—Each, 15c; 10, \$1.00; 25, \$2.00; 50, \$3.50; 100, \$6.00; 1,000, \$40.00.

Ranaree or St. Regis—This variety is known as the Ranaree in the north and

as St. Regis in the southern part of the state. It is often termed the everbearing raspberry as it may be planted in February and with proper care and plenty of water will produce fruit in August and will continue throughout the summer and fall. This feature makes it popular for the home garden. The St. Regis is also a good commercial berry, as it ships well.

Cuthbert—This variety is what is so popularly called the Cassberry on the Los Angeles Market. It comes at the mid-season and is more popular commercially in Southern California than any of the other varieties. The fruit is large, firm, of fine flavor and is borne abundantly in large clusters. The Cuthbert bears only one crop during the months of June and July.

California Surprise—This is not only the earliest red raspberry grown in California, but is considered by many to be of the finest flavor. They do not ship as well as the Cuthbert or St. Regis, but are unexcelled for the local trade.

Latham—As this variety is new to us, we are as yet undecided as to its good or poor qualities. It is very popular in the east and is greatly advertised. It is the largest of all the raspberries. Next year we hope to be able to pass an opinion on them.

All red raspberries listed are to be planted two feet apart in rows six feet across. 3,000 plants are required per acre.

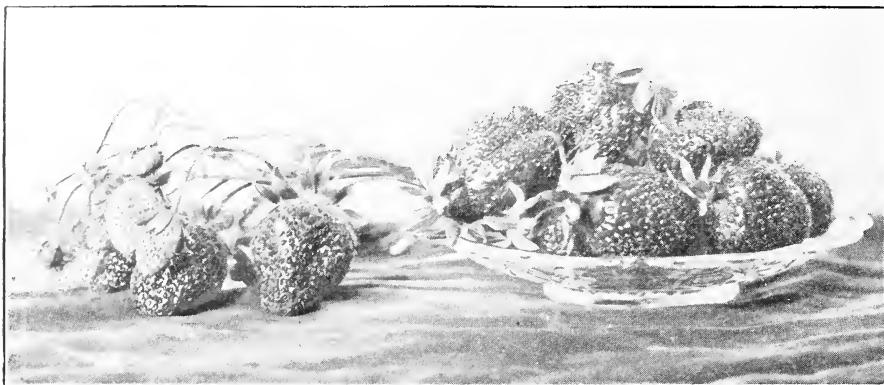
Prices—Each, 15c; 10, \$1.00; 25, \$2.00; 50, \$3.00; 100, \$6.00; 1,000, \$40.00.



RASPBERRY CULTURE

Raspberries require more care than blackberries or dewberries. Being shallow rooted they require more water, which must be flooded over the entire ground between the rows. They must have plenty of fertilizer, manure of any kind being the best. It should be scattered in the whole space between the rows and soaked in by heavy irrigation.

In shipping raspberry plants it is customary to leave the canes a foot or more long. When the plants are set it is best to cut the canes off to within a few inches of the ground, in order that stronger canes will be sent forth. If they should begin blooming in May or June, prune off the canes having blossoms, thus forcing stronger growth. Later in the summer the St. Regis may be allowed to bloom and will bear throughout the summer and fall. All the suckers between the rows should be hoed out.



Strawberry Facts

The plants which are grown for plants only are far superior to the surplus plants that are taken out of the fruiting field. We have found that eastern and northern plants, such as we sell, are more profitable than those grown locally.

The method of setting strawberry plants depends a great deal upon the conditions present. The method most often used by the commercial growers is that of setting the plants three feet apart each way, in February or March, keeping the blossoms picked off the first summer, so that the plants will make runners to fill out the rows. Using this method, the plants will not yield a crop the first summer. Only five thousand plants are required per acre for this plan.

If fruit is desired the first summer, the plants may be set out any time from October to April, placing them one foot apart in single or double rows, and keeping the runners pulled off. This plan requires from seventeen to thirty thousand plants per acre, the exact number depending on the spacing of the rows.

The use of the ridge in planting depends upon the quality and surface of the soil. Where the soil is sandy, not very retentive of moisture, and considerable grade to rows, ridges should not be used. If the land is heavy, flat, and very retentive of water, the plants should be set in ridges wide enough to accommodate two rows about a foot apart, near each edge of the ridge.

Do not put manure on the land just before setting strawberries, but fertilize between the rows after the plants are well started.

Strawberries cannot be grown where the soil is alkaline or where there is not plenty of water.

Klondyke—This variety is considered the best commercial strawberry in Southern California. It is the earliest,

the finest, and the best shipper, and produces two crops a year, the first in the early spring and the second during the summer. It is a strong grower and a good plant producer. Our eastern grown plants make large thrifty vines that produce heavy crops of well colored berries.

Prices—25, 50c; 100, \$1.50; 300, \$3.50; 500, \$5.00; 1,000, \$7.00.

New Oregon (Oregon Plum)—This variety produces better flavored fruit than any of the other varieties. They are not only well flavored, but are of a good size, shape, and color, and bear over a long season. They are by far the best berry for the local markets, but do not ship as well as the Klondykes. These plants do well in rather heavy soil.

Prices—25, 75c; 100, \$2.00; 300, \$4.00; 500, \$6.00; 1,000, \$10.00.

Mastodon Everbearing—In the east this berry is receiving a great deal of favorable mention, and is rapidly becoming popular here in the west. The western experiment stations are not as enthusiastic about it as the eastern growers. It produces a large, well shaped, nicely colored berry. The fact that it is an everbearer adds greatly to its popularity.

Prices—12, 50c; 25, \$1.00; 50, \$2.00; 100, \$3.00; 500, \$11.00; 1,000, \$20.00.

The prices quoted on strawberry plants include the mail or express charges to any point in California. When ordering plants in lots of a thousand or more, deduct two dollars per thousand from the quoted price, and we will ship the plants directly to you from the grower, you paying the express, which we believe will not be over two dollars per thousand. In this way there will be no delay and your plants will reach you much fresher.

Embree's Cherry Giant Rhubarb



This variety, which we consider the best grown, produces large, well flavored, cherry colored stalks. Although the stalks are large, they contain very little acid, and are so tender that they may be cooked without peeling.

It is such a heavy producer that two plants, if well cared for, will supply the average family with rhubarb all year. Plants set in the spring are ready to pick by September.

This variety will not grow from seed, but has to be propagated by subdividing the plants, which makes it more expensive than the common varieties. However, it is well worth the difference, as you may make your own plants after you once get started. One hundred plants will set four rows one hundred feet long, and will produce fine red stalks through the winter in the warmer sections. Rhubarb grows well in rich soil with plenty of water. Plant four feet apart in rows six or seven feet across.

Prices—Each, 50c; 10, \$4.00; 50, \$15.00; 100, \$30.00; 1,000, \$250.00.

ASPARAGUS

Giant Martha Washington asparagus is superior to the old varieties of asparagus, being more resistant to rust, more prolific, and of a finer quality. Asparagus should be planted in deep furrows one foot apart, making the rows six feet apart. Cover the plants with about two inches of soil and as they grow work more dirt to them until the furrow is filled up. This method is to get the crowns deep enough so that they will not be injured by cutting. No asparagus should be cut the first season, but in the fall when the tops turn yellow cut off to the ground and manure heavily. The next spring the bed may be

cut for a while, but must be allowed to fern each summer and fall in order that the plants may recuperate and be ready for cutting the following spring.

Prices—Less than 100, 2c each; 100 or more, \$1.50 per 100; 1,000, \$10.00.

GLOVES FOR PICKING BERRIES

We have found that goat skin gloves are the only all-leather gloves which are tough, pliable, and cheap enough to be practicable for berry picking. If you cannot get these from your local dealers, we can supply them at 60c per pair, or \$6.25 per box of one dozen pairs of assorted sizes, postpaid. The price of these at our shed is 50c per pair. These gloves come in both men's and women's sizes. Please state the number of pairs of each wanted when ordering. Give the pickers these gloves with the fingers cut about half off and they will get many more berries from inside the vines than they will without gloves. These gloves do not catch on thorns like canvas gloves.

BERRY BASKETS

We carry only the tin top baskets in the eight ounce and twelve ounce sizes. We pack all varieties of bush berries in the eight ounce baskets, and find that they carry better and keep longer. The strawberries are always put up in the twelve ounce basket.

When ordering baskets be sure to mention size wanted, and whether they are to be shipped by freight or express.

Prices: Quoted F. O. B. Norwalk—Both sizes are 75c per 100; \$6.00 per crate of 1,000. Five pound fruit baskets, \$2.00 per 100. Eight ounce baskets weigh about thirty-five pounds, and the twelve ounce size about fifty pounds per thousand.

Brief Cultural Directions

(Taken from Experience)



Klondyke Strawberries Planted in Single Rows

Irrigation—No set rules can be laid down which will hold good in all cases because of the difference in climate and soil in the various sections. We have given the distances for planting with each variety. We irrigate about once each week during the picking season and about once in three or four weeks during the balance of the year, except in the rainy season. Some soils will require water more often than this, especially for strawberries, while others may need it less often. Give them a thorough irrigation when you do irrigate. The one main consideration is to keep your plants growing thrifitly through the entire summer. We have to get a large vine growth in order to be able to get a heavy crop, so if it takes more water to get a vigorous vine growth, use it. Water well at the end of the picking season and again immediately after pruning, which should be done just as soon as the crop is picked. This gives the vines a good thrifty start at a time in the summer when they will grow very fast.

PRUNING—**Macatawa, Crandall, Advance** and other bush type blackberries require no pruning the first summer. They grow pretty much on the ground the first season, but stand in bushes after the first year. The following spring after the plants are set, new, stiff, upright canes come up through the plants, and these should be headed back to the height it is desired to have the bushes, just before commencing to pick. This gets them out of the picker's way and makes the framework for next year's bush. Then when the crop is all picked all the old wood that has borne berries should be cut out at once.

Dewberries (and Advance blackberries if trellised) should be left on the ground the first season until July or August, when they are put up on low trellis. No pruning is required until the berries start ripening, when all the new wood is cut off to facilitate picking. As soon as the crop is off, the whole vine is cut

off level with the ground with a hoe; no other pruning being needed.

Youngberries, Loganberries and Mammoth Blackberries require a high trellis (four to five feet). They are grown on the ground the first season until they are long enough to go up on the trellis. No pruning is usually necessary until the crop is picked, when all the old wood that has borne berries is cut from the trellis and off at the top of the ground. The new wood which has grown during the spring is trained parallel with the rows under the trellis and is put up on the wires when the old wood is cut off. In some sections the new canes of the Logan and the Mammoth are left on the ground until February and put on the trellis then to prevent sunburning.

Raspberries. Red raspberries should be cut back to within three or four inches of the ground when set out. Then in the spring when the new canes reach a height of about twelve inches, pinch or cut them back to about eight inches. This will make them branch and send up more and better canes. On some varieties (California Surprise for one), this is very important; and they should be cut early, while still short, not over fifteen inches. As these canes grow out they should be held upright by a wire on each side of the row fastened to short cross arms on stakes.

Then about February the canes should be headed back; on an average about one-third being cut off; some prune off much more. After the crop is picked, cut out all the wood that has produced berries clear to the ground.

In the spring, before starting to pick, the new canes can be cut back to within one foot from the ground. This will get them out of the way of the picking and make them branch for the following crop. Keep the sprouts that come up in and between the rows hoed out while small.

Black Raspberries need no pruning the first summer, but should be held up

with a low wire trellis. Ordinarily two wires one foot apart and two feet high is about right. The canes may grow eight or ten feet long the first summer and should be headed back while dormant, on an average about one-third their length. When the crop is picked the old wood is all cut out to the ground and the new handled as before, or if you prefer bushes, the new canes can be headed back a little when they reach three feet high. This will make the canes stand up in bushes the second season. These canes will send out lateral branches which should be headed back the following winter to about twelve inches from the upright canes.

With Himalaya Blackberries only four canes should be allowed to grow from the start. They should be trained on high trellis of two wires, with one cane each way on each wire. The canes are headed back when they reach the next bush (about ten feet). No laterals should be allowed to grow between the ground and where the cane reaches the wire. These main canes are left year after year, like eastern grapevines, and all laterals are cut back in the winter to two or three buds.

Corey Thornless. We believe the best way to handle Corey Thornless blackberries is as follows: The first year leave the canes on the ground, but keep them pushed over in line with the rows, so that they can be irrigated and cultivated. Then in February put the canes up on a high trellis, saving only four or six of the best canes and cut these selected canes off at about eight feet long. If they have branches cut them back to about one foot long. Immediately after the crop is picked cut the whole vine off just above the ground and leave the new canes that grow right down on the ground until the following winter, when they should be thinned out and headed back as mentioned above and put up on the trellis.

There are as many different methods of pruning as there are different growers. The plans suggested here of handling the different varieties are only suggestive, but have proven satisfactory under most conditions. Each grower works out details that suit his own taste and convenience.

Time to Plant—Strawberries may be planted any time from October until April. All varieties of bush berries should be planted after the first of January and before the last of April. Occasionally we have seen fair results obtained, if the conditions were all favorable, when planted even later, but we do not recommend it. We consider February the one best month for planting all kinds of berries except Advance.

Fertilization—On nearly all soils it pays to fertilize berries. For bush berries, if manure is scattered on the ground between the rows and irrigated and cultivated in, during the fall and winter, and the ground is not allowed to dry out, it is hardly possible to use too much. From five tons of poultry manure to twenty tons of barnyard manure per acre will usually give excellent results and will pay. In small plantings, from five to ten pounds per plant of poultry manure and twice that amount of other manures, scattered be-

tween the rows and hoed and watered in, usually increases the size and quality of the crop wonderfully. If manure is not available, from half to one pound of nitrate of soda or sulphate of ammonia per plant scattered between the rows and soaked in at about blossoming time will help. Or if fish meal, blood meal or tankage is available from one to two pounds per plant worked in the ground in February will certainly help make them do their stuff. The time of applying these different fertilizers is important because some materials become available much quicker than others.

On commercial plantings, when manure is not available, from one-half to one ton of fish meal, blood meal, tankage, or a good mixed fertilizer, the exact amount depending on the soil, will usually prove a very good investment. These materials are usually applied about the time growth starts in the spring. For strawberries from three-fourths to one ton per acre of fish meal scattered down the irrigation furrows and cultivated in February and an equal application again when the first crop begins to thin out, usually around the first of June, gives wonderful results on many soils. On small plantings this would be at the rate of ten to fifteen pounds per hundred feet of row.

Trellising—It pays to use only redwood posts, as pine rots out too quickly. We use heavy end posts and stretch the wire from one end of the row to the other from the end posts and then staple it up to the inside posts. The end posts should either be braced or the wire should be tied close to the ground on them and then raised up to the desired height on the inside posts. If the wire is stretched tight and the end posts are solid the inside posts may be spaced 25 feet apart and need not be larger than two by two redwood. Some use one wire above the other, while others use crossarms. Each system has its advantages. We make the top wire from three and one-half to four and one-half feet high for blackberries, loganberries, youngberries, the exact height depending on how heavy the vines are at the time we put them up. For raspberries we use very short crossarms that space the wires about one foot apart and let the canes grow up between these wires. For St. Regis usually one pair of wires about two and one-half feet high is enough. On good land Cuthberts will require another pair twelve or fifteen inches higher.

SPRAYING—(**For the Commercial Grower**)—In the past berries have required very little spraying in California. During the past few years a microscopic mite known as the blister mite is becoming bad in many sections of this state. This mite enters the blossoms of all the later sorts of blackberries and cause sections of the berry to remain red after the balance of the berry is ripe. In all sections where this condition has appeared all varieties of blackberries, except the Advance and possibly the dewberries, should be sprayed. The Advance and the dewberries blossom very early and, so far as we know, have never been attacked by the blister mite. For this trouble spray in the spring, just when the leaf buds are

starting to open with lime-sulphur, one to ten. That is, one gallon of commercial liquid lime-sulphur to ten gallons of water, or if you use the dry lime-sulphur, use fourteen pounds to one hundred gallons of water. Now the above is dormant strength and will burn if used after the plants are leafed out, but should be used just when the leaf buds are starting to open and none of the leaves are more than one-half inch long. A thorough job of spraying at this time will get almost perfect control. In bad cases, or, to get absolute control, a second spraying should be given when the berries are about half through blossoming. This second spraying consists of five pounds of soluble, or wetable sulphur to one hundred gallons of water. For Himalaya blackberries which blossom over a very long period, two or three sprayings during the blossoming time are advisable.

To control the white scale (rose scale), which gets on the canes near the ground and sometimes becomes quite bad, spray during the dormant season with one of the refined lubricating oil sprays, such as Volk, or a number of others on the market. Use at the rate of two gallons to one hundred gallons of water and keep it well mixed.

Sprays for the Home Garden—For redberry which prevents blackberries from ripening uniformly. If only a small planting is to be sprayed get one quart of liquid lime-sulphur from your feed store and mix it with two and one-

half gallons of water or get half pound of dry powdered lime-sulphur and mix it with three gallons of water. This can be applied with any kind of a small sprayer. The important part is to completely wet the vines or bushes all over and to apply it at just the right time, which is just when the leaf buds (not blossom buds) are commencing to open. If you have been very seriously bothered the past season by your berries not ripening, give them a second spraying, consisting of one-quarter pound of soluble sulphur to five gallons of water when in full blossom.

For white scale (rose scale) near the base of the canes, use one-half pint of Volk, or any other good refined oil spray, to three gallons of water. Apply this in the winter while the vines are dormant.

If strawberries should be attacked by aphids (small green plant lice), dust well with Nico Dust. If strawberries are attacked by red spider (an exceedingly small red or yellow mite on the under side of leaves), sometimes one or two spoonfuls of sulphur scattered close around the plants on a hot day will create fumes enough to kill the spiders.

If any other conditions should arise which require spraying, we would suggest that you write for the bulletins listed in the back of this catalog and also take the matter up with your local horticultural commissioner. If at any time we can be of any help we will be glad to do so.

Helps for Berry Growers

During the course of a season we receive a very great many letters asking information concerning berry growing, and while we are always glad to answer these questions as best we can, sometimes it would take many pages to answer completely. It is impossible, in as small a book as our little catalog, to give very complete directions for planting, irrigating, pruning, and caring for all the different varieties of berries. The University of California at Berkeley, and also the Department of Agriculture at Washington, issue a number of circulars and bulletins on growing the different varieties of berries which will be mailed to you absolutely free if you will ask for them. These give a great deal of detailed information which is illustrated with pictures, making them very interesting reading for berry growers.

You can send to University of California, College of Agriculture, Berkeley, Calif., for Circular No. 164 on Small Fruit Culture in California.

Circular No. 154 on Irrigation Practice in Growing Small Fruits in California.

Circular No. 265 on Plant Disease and Pest Control.

Bulletin No. 399 on the Blackberry Mite—the cause of redberry disease.

By writing the Department of Agriculture, Washington, D. C., you can get the following bulletins:

Farmers' Bulletin No. 643, Blackberry Culture.

Farmers' Bulletin No. 728, Dewberry Culture.

Farmers' Bulletin No. 887, Raspberry Culture.

Farmers' Bulletin No. 998, Culture of the Loganberry.

Farmers' Bulletin No. 1458, Strawberry Diseases.

Farmers' Bulletin No. 1027, Strawberry Culture.

Farmers' Bulletin No. 1043, Strawberry Varieties.

Farmers' Bulletin No. 1398, Currants and Gooseberries. This last one will explain why we do not grow currants and gooseberries commercially in Southern California.

Farmers' Bulletin No. 1488, Diseases of Raspberries and Blackberries.

In addition to these bulletins the University of California gives two correspondence courses, one on Strawberry Growing and one on Bushberry Growing. These come in seven lessons each and are really good. Each course only costs \$2.00, and is open to everyone. If interested address Division of Agricultural Education, University of California, Berkeley, California.